REMARKS

Pending claims

Claims 1-32 are still pending, of which claims 1, 27, and 28 are independent claims.

Claim Rejections Under 35 U.S.C. §103

The Examiner again rejected claims 1-3, 9-11 and 25-32 under 35 U.S.C. 103 as being unpatentable over US 2002/0143842 (*Cota-Robles*) alone, that is, not just in combination with some other reference.

The core issue is the Examiner's contention that Cota Robles teaches

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performing a transformation of I/O data passing between
the VM and the device (paragraphs 0015, 0027, 0047), said
transformation being adjunct to necessary completion of
the request, as issued, for the I/O operations (paragraph
0027, "the soft device driver .. performs zero or more
transformations on data directly transferred to system
memory" (emphasis added)
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In discussing the corresponding element of claim 1 (with a similar limitation in claims 27 and 28), the Examiner wrote:

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… Cota-Robles clearly demonstrates that there are to be
"zero or more" transformations, which implies that the
transformations may be wholly unnecessary.  In this
regard it is arguable that Cota-Robles inherently teaches
the transformations being adjunct to necessary completion
of the I/O operations.  At worst, it would have been
obvious … that Cota-Robles suggests transformations may
not be necessary, as "zero" transformations would
indicate that no transformations are necessary for proper
completion of the input/output operations.
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The applicants do not dispute that Cota-Robles may perform zero transformations, but they respectfully submit that this is unrelated to the question of whether applicants' invention as claimed is patentable: almost *all* existing systems may perform zero transformations, since that implies only that they are carrying out requested I/O operations – the Examiner's computer does this countless times every minute, for example, every time the OS retrieves data from disk or memory.

First, one should keep in mind that claim 1 (with analogous text in the other independent claims) recites actually "performing a transformation ... [that is] adjunct to necessary completion of the request, as issued, for the I/O operation." If Cota-Robles performs zero (that is, no) transformations, then he is by definition not teaching this claim element at all. Performing *no* transformation is not the same as performing *a* transformation."

When Cota-Robles performs no (zero) transformation, then obviously no transformation is necessary, since, in every case, transformations are performed only when necessary "to complete the task the guest OS 106 or 114 requested" (paragraph 0026, last sentence), "in order to effect the operation requested by the guest OS" and "in order to complete the requested operation" (both in paragraph 0027), "in order to complete the task intended by the virtual machine" (paragraph 0029), etc.

So, when Cota-Robles does perform a transformation, it is done, according to Cota-Robles himself, because it is necessary to complete the requested operation. In other words, when Cota-Robles performs *a* transformation, it is not "adjunct to necessary completion of the request, as issued, for the I/O operation," as required by the applicants' independent claims; conversely, when Cota-Robles performs *no* transformation, he is not teaching the applicants' claim element at all. In short, whereas Cota-Robles teaches *not* performing a transformation only when it is *not* necessary and transforming when it *is* necessary, the applicants teach performing a transformation *without regard* to the question of whether the requested operation can be completed as issued, but rather *adjunct* to such completion.

In every case, whether Cota-Robles performs a transformation or not is therefore related to some need to complete the task/operation requested/intended by the guest OS/virtual machine. In contrast, the applicants' invention as claimed involves actually performing a transformation as a matter unrelated to whether the operation can be completed "as is" or not. Executable necessity is simply not the issue in the applicants' invention as claimed, whereas it is the whole reason for Cota-Robles' system's ability to perform any transformation at all.

Conclusion

The various embodiments of the applicant's invention as defined in the corresponding independent claims recite a key feature (transformation adjunct to the issue of executable necessity) found at all in any of the cited references, whether the references are viewed independently or in combination. As such, the independent claims should now be allowable over the cited prior art. The various dependent claims of course simply add additional limitations and should therefore be allowable along with their respective independent base claims.

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VMware, Inc.
3145 Porter Drive
Palo Alto, CA 94304
Phone & fax: 360-793-6687

Respectfully submitted,

Jeffrey Pearce

Jeffrey Pearce
Reg. No. 34,729
Attorney for the Applicants